Review of Power and the Vote. Elections and Electricity in the Developing World. By Brian Min. Cambridge, Cambridge University Press, 2015. *

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Electricity is the bloodstream of modern economic life, and most of us take it for granted that we can rely on a steady supply. Yet, 1.3 billion people live without electricity. Brian Min's new book provides important new insights into why this is so and, in the process, takes empirical work on distributive politics to new heights.

Electrification is often viewed as a public good that delivers nonexcludable and nonrival benefits to a society. At closer inspection, the reality is very different: who gets connected to the grid, when and with what degree of reliability are choices that in many societies are wide open to political manipulation. As Min puts it, "public goods schemes may offer universal benefits to a country as a whole, but in their implementation and delivery, the individual fragments that make up these schemes have many of the characteristics of private goods" (5). This combination of public and private good characteristics makes electricity schemes more attractive to democratically elected politicians than to autocrats who, arguably, are less concerned with the targeting of services.

The book's main argument is that democratic governments provide greater access to valuable public services such as electricity than non-democratic rulers because the logic of

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competitive elections forces them to do so. It also argues that competitive elections induce governments to target electricity supply to the poor. These arguments are fairly convincing at the theoretical level, although coining the term "political externality" defined as "non-monetary rewards that accrue to the political figures who broker the implementation of public goods schemes" (21) to describe this process is somewhat unhelpful. The term externality conjures up an image of benefits and costs that are unintentionally bestowed on others. Here, the point appears more to be that the benefits of providing electricity services are, in fact, internalized by electorally motivated politicians.

This general theory delivers three testable hypotheses. First, the electrification rate (the fraction of the population with access to electricity) is higher in democracies than in non-democracies. Second, the electrification rate is higher in poor areas in democracies than in similar areas in non-democracies. Third, the effort to target electricity in a democracy is maximum in election years.

Testing these hypotheses is harder than one might think, as comprehensive, consistent, and reliable data on electrification are scarce on the ground. Min's ingenious solution is to use nighttime light output recorded from space by the US government's Defense Meteorological Satellite Program's Operational Linescan System and made available in digitalized format on a high spatial resolution (30 arc seconds or about 1 square kilometer at the equator) on a yearly frequency between 1992 and 2010. The data have been subjected to "ground truthing" and found to be accurate. The data's great advantage is that they can be spatially aggregated in any way you like.

Min estimates electrification rates by comparing nighttime light output at the 30 arc seconds resolution to population numbers within this grid (unfortunately, recorded only for a single year) and by assuming that unlit cells with a population similar to that of the most dimly lit cells do not have access to electricity. Thus armed with "big data," Min provides affirmative answers to the three hypotheses. First, he documents, using regression and matching techniques, that in a country with a long history of democracy 10% more citizens got electricity relative to a comparable country with a long history of

non-democracy. Second, he aggregates the 30 arc second cells up to 100-kilometer by 100-kilometer areas and matches these with data on infant mortality and economic output. By comparing "poor areas" with low economic output and/or high infant mortality in democracies and non-democracies, he documents that democracies are better at bringing electricity to the poor.

These findings are important contributions to the literature on distributive politics. They suggest that democracies not only serve the median citizen but also effectively serve the poor and disadvantaged. However, given the cross-sectional nature of the data, one can quibble about causality. Matching techniques help but still require "selection on observables." Yet, such quibbles should not overshadow the fact that it is a very significant achievement to marshal the required data and to provide suggestive new insights into the link between regime type and provision of public services. Perhaps the most interesting analysis of the book relates to the third hypothesis. Here, Min zooms in on the Indian state of Uttar Pradesh. This is a place where whom to cut off from the grid, when, and for how long are political decisions. The most telling evidence comes from an analysis of the nighttime light output from election districts before and after the 2002 election. The election saw a dramatic transfer of power from one party to another. Lo and behold, districts represented by the losing party appear much "darker" after than before while those represented by the winner are lit up!

Power and the Vote is an important book that deserves to be widely read. In it, Min demonstrates how "big data" originating from satellite pictures of earth at night can facilitate inquiry into the politics of public goods provision at many different levels imposed by spatial aggregation. The great virtue of this approach is that it avoids the straitjacket of standard data, which are recorded for fixed geographical boundaries. In this regard, the book is an example to follow. In addition, the specific questions Min asks are at the heart of political economy. The collage of evidence he presents shows fairly convincingly that democracy does bring benefits to the people. Finally, the book makes a very valid conceptual point: the standard economic distinction between (pure) public

goods, club goods, and private goods becomes blurred in the translation from theory to empirical measurement. Min's analysis demonstrates clearly that what at first may appear to be a public good is, in fact, highly targetable, and that makes a difference, particularly so in democracies.